

ONE WORLD—Many Men

[illegible][illegible]

Over
the
last
few years, Lyndon Johnson's role in the
Vietnam War has been widely discussed.
The book "Lyndon Johnson and the Vietnam War"
by H. R. Henshaw provides a detailed account of
the events leading up to the war and the impact
of Johnson's decisions.

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1 Human Differences

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Little believed that the Aryan Nordic German race was the only one endowed with a multitude of excellent qualities and with noble deeds. But it does not credit Little with having invented national self-glorification since time immemorial people everywhere have indulged in it. Consider for example the following excerpts from the title addressed to the 71st by Emperor Chien Lung of China to King George III of Britain in response to the letters on his previous commercial relations between the two countries.

You O King live beyond the confines of many seas and earthless impelled by your humble desire to partake of the benefits of our civilization.

If you assert that you Celestial Dynasty flits you with a

civilization our ceremonies and code of laws differ so completely from yours in that each of your Emperors has been able to acquire the civilization of our civilization and could not possibly transmit it in the manner and circumstances of your civilization. If the elements of civilization are to be transmitted by you O King are to be accepted this is a clearly in consideration for the spirit which prompted you to bestow them from afar. Our Dynasty is transmitted into every country for it has a number of thousands of years history. Therefore it is costly to be transmitted and as you are already aware for yourself each of them is not to be considered as a subject of study and have no use for your country's manufactures.

Dr. thus sound ridiculous? No more so than the numerous letters from your brothers in America about the utility of the abolition of slavery over the United States. It is a mistake to be persuaded to promote the utility of the abolition. No! The race of No! We turn to the utility of the rise of No!

This sort of conceit is not confined to the expressive nations. A letter of the work of an American modern poster has inserted in it. Through your will speak the spirit. Little may never have heard about the nomadic kind of living in the mountains and deserts of Asia. But one of us heard a grey bearded patriarch expounding the conviction that the spirit of the human is superior to that of any other. And the heart is what really matters in men than a roof of the sky.

The belief that the differences between men

training which they receive. Both extreme wrong since it is known that many human traits are the character of our blood. Let us be blind or not the color of our eye and many traits are inborn—they are determined very largely while many others including the degree of the language we speak the religion we practice determined not by heredity but by which we are to be born by our environment. And it will follow us that we call it so called. It is a fact and so-called environmental traits there is a difference between heredity and environment of course. It is involved in the nature of every characteristic. But our belief concerning which has a decisive influence on specific differences will determine our actions regarding them.

Democracy and Racism

See the solutions of the problem of the human

[illegible]

to l l and good to l l l l l n e m p r s i g h t w r i t e , a p u r e l y s c i e n t i f i c s a y s u c h f i g h t i n g q u e s t i o n s a s
w i t h t h e r e t o c h e m e t r i c o n c l u s i o n s o u l d h a v e b e e n e t h e r r i c e d i f f e r e n c e s a r e a b s o l u t e o r r e l a t i v e a n d
s w a y e d b y p r e j u d i c e a n d s e l f i n t e r e s t .

h a t t h e p r o s p e c t s a r e f o r t h i s a p p e a r a n c e o r i n c r e a s e
I n g e n e r a l s o l u t i o n s t o s u c h p r o b l e m s a s w h a t t o d o w i t h d i f f e r e n c e s
a b o i t i n b o r n d i f f e r e n c e s a m o n g m e n c a n a r i s e o n l y o f t h e m a y a s w e l l s t a t e a t t h e o u s e t t h a t w e a r e n o t
o f t h e k n o w l e d g e a n d u n d e r s t a n d i n g w h i c h i t i s k n o w n t o p e r u l e o n e o f t h e v i r t u e o f a n y t y p e
f u n c t i o n o f s c i e n c e t o p r o v i d e l o v e r s o v e r h u m a n i t y o r b e t t e r o f a n o f a n y p e c i a l p o l i t i c a l c o
s e r e i t a s t h o s e r e q u i r e d t o p u t a e u g e n i c p r o g r a m i n o r c o r r o u t y A s b i o l o g i s t s w e v i e w h u m a n
i n t o e f f e c t a s t h e e n t r a n c e t o o n l y t o a s o c i e t y i n w h i c h d i f f e r e n c e s a r e t h a t w h i c h c a l l f o r u n d e r s t a n d i n g a n d
s o c i a l a n d e c o n o m i c e q u a l i t y o f i n d i v i d u a l s a n d g r o u p s r e t a r d a n o t a s q u a l i t i e s t o b e e i t h e r c o n d e m n e d
g u a r a n t e e d a n d p r o t e c t e d i n p o s i t i v e w a y s T h e b e r p r a i s e d I n f e c t i o n d e s c r i b i n g g r o u p s o f m e n i n
p r o t e c t i o n i n t h e v i l l a n d k n o w l e d g e o f t h e p e o p l e i n l o c a l i t y s e v e r a l n o t r e c o g n i z e c a t e g o r i e s d e f i n e d
t o s u n d a m e n t a l o b l i g a t i o n o f s c i e n c e t o e q u a l g o o d o r b a d s u p e r i o r o r i n f e r i o r T h e s e
t h e m s a t h e b o l o g i c a l c a t e g o r i e s t r y f o r u n d e r s t a n d i n g c a t e g o r i e s r e s t a t e m e n t s o f o p i n i o n t o h a v e
i n c h u m a n l i k e n e s s e s a n d d i f f e r e n c e s T h a t w i l l b e t h e m e a n i n g a s I c a n s a y t h e y w o u l d l i k e t o b e a c c o m p a
n i m e n t o f t h i s l i t t l e l o o k W e s h a l l t r y t o s t a t e t h e f a c t s a n d l y s p e c i f i c s t a t e m e n t s s u c h a s M o s t N e g r o e s r e
l i e d i t y a s s i m p l y a s w e c a n s o t h a t t h o s e w i t h m a j o r o r t o m o r t a l i t i e s i n t h e i r r e s p o n s e t o m a l a r i a
p r e v i o u s a c q u a i n t a n c e w i t h t h e s u b j e c t c a n u n d e r s t a n d M o s t w h i t e s a r e s u p e r i o r t o m o s t N e g r o e s i n t h e i r
i n t e l l e c t u a l i d e a s a n d a p p r a i s e s o m e o f t h e e v i d e n c e u p o n t h e t u b e r c u l o s i s S t a t e m e n t s a b o u t t h e s u p e r i
o r w h i c h t h e i d e a s r e s t I n d o i n g t h i s i t w i l l b e n e c e s s a r y o f o n e g r o u p o v e r a n o t h e r i n n a t i v e i n t e l l i g e n c e
t o e x p l a i n w h a t h e r e d i t y i s a n d h o w i t o p e r a t e s i n e s s u a l l y m a d e f r o m t h e s t a n d p o i n t a n d f o r t h e p u r
p o s e o f t h e l a n e s s a n d d i f f e r e n c e s o f t h e p a r e n t s a r e d o u b t s o f o n e o f t h e g r o u p s u n d e r s u c h t h e o t h e r m u s t
t o b e i n d e e d a m o n g t h e i r c h i l d r e n I n r e c o r d n o c e w i t h a s y e b e a t a d i r e c t a n d e
l i n e r u l e s T h e r u l e s k n o w n a s M e n e l s l a w s A s n a t u r a l i s t s e s t o u t l o n d v e r y s i l l y i f s e e r e i n
j u s t i f i c a t i o n o n t h e p e c u l i a r i y i n w h i c h t h e e x c e l l e n c y W e j u r e s u p e r i o r t o e n t i r e p a r t i n n a t i v e i n t e l l i
g e n c e o f m a n i n a l i n m o s t p l a n t s a r e f o r m e n c e b e c a u s e i t s t h e w a y t h a t s u n a n d l a y s i t s e g g s
a n d c o n t r i b u t e t o p r o d u c e t h e o f f s p r i n g a n d t h e p e r t e n a n t t h e c a t e r p i l l a r n o t t h e o t h e r w a y r o u n d S t e
p h a n t o f s e x u a l r e p r o d u c t i o n w i l l t h u s b e t e d i t e n t s a b o u t t h e i n t e l l i g e n c e m a y b e r e a c h e d s o m e
o u t e t
b y i s c o n c l u s i o n s b u t a t p r e s e n t t h e y a r e n o t u s e f u l
W e t h e n a s k t h e o l d q u e s t i o n I f n a t u r e o r n a t u r a l i n a t i o n w h i c h l e a d t o a b e t t e r u n d e r s t a n d i n g o f
h e r e d i t y o r e n v i r o n m e n t o r c o m b i n a t i o n o f d i f f e r e n c e s W e s h a l l t r y t o c o n f i r m o u r e l y s t o
t h e e d i t i o n s e x p l a n a t i o n f o r t h e d i f f e r e n c e s I f t h e r e i s a s u f f i c i e n t c a u s e f e l t t h e n e w y a l t h e r
v e l o c i t y w i l l t o b e f a s t
t h e i n t e l l i g e n c e y e l l e t
I g h t o n t h e j u n c t i o n I f e s t h o a
s p e c i e s o f t h e s a m e s p e c i e s a n d m e m b e r s
I f t h e d i f f e r e n c e s a r e t r a n s m i t t e d
t h e l e d o f c o u r t o a s l y e t o f m o r t a l i t y
I f t h e e n d i d e a l d h e r e c a n b e e l e g e n t
r e s u l t s h e f o r d t p o l l t o d i s c

Her ity R * * e le

o th e all that such a stiter ent means is that if an
 r onment = all suitable for human life a baby
 e r gro s to be a man or does not live t all What
 e really want to know how d fferent could individ
 s with similar hereditics become in d fferent en
 vironment and how great are the differ ces which
 s can with d fferent hereditics may be expected
 o l play in the s e environment

The skin colors in Negroes and Whites d ffer doubt
 l s b s ture But observe the kin colors of enthu
 ratic b t ers on beaches in California or Florida or
 for that matter near New York s hite s mner Some
 e as dark as Negroes or at least as mulattoes Yet
 me these dark sk ined fellows baco re quite pale
 s standing a lo i inter in a city apartment Such
 l a e in th kin color are evidently due to env ron
 t n not to heredity The up lot is lo ver th t
 a e it may seem a blk and a white some
 t c l a e very nearly the same sk n colors The tite
 t n that Negroes and Whites differ in skin color proves
 to l s accurate or at least incomplete We really
 lo y that they d ffer in the sk n color in one
 s t n but not in others s s o d ffer n better
 s t t n s cople call it what there is so ie
 u s s o do not de elop mch color n the k
 t ll of vno s to uig t ones hoh ve tle
 r o l r thout expo re b a stron color t on
 t a u ex t os th tle and d ffly soe whos
 e n e o r s arthy th o without sun gl s
 Ne o s ave d k k s in all known environme ts

Hereditus?

h n you s e r s s a l of so act nly th at he l as in
 r r l e a l k k out you kn d t a
 d r t m l h l loc e t l a e
 t l l e e t s s t s t r l s o l v i
 t h of th t t e m e t t a t
 t y e l o r s r l a s t l l

his d sposition from his mother Biolog cal heredity is
 trans mitted through sex cells which h e no eyes in
 them and no def nible disposit on It is not the eye
 color or other traits that are m l erited but something
 within the sex cells wh ch determines how a living in
 d i lual will react to various environments In some
 fa ilies children are born who in spite o" adequate feed
 in and care ne er grow to be tall Members of other
 families grow tall and strong with little care These
 facts do not contradict th e opinion of edical authori
 ties that nutrition exercise and health condions in
 fl uence the "rowth and stature is inherited it is more
 d ren We can say that stature is inherited it is more
 uate to say that the stature depends upon heredity
 a s well as environ ment Each here lity responds to each
 n iron ent by produc n a certain stature
 Some people can not reta n and utilize s gars which
 they et n their food instead the s gars are expelled
 the ur ne These peop'e are diabet cs and this dis
 e s hereditary About t o de c go it was dis
 e red that injections of a dr g called insulin relie e
 s r mptly the it chs of diabe e The i j e c t i o n s do not
 e the ilne it ll n t the track r e r u n i s s
 e t o n are in de t p o p e r n u a l l i g i n r e g u l a r
 t i o n s a d i a b e t i c m y h a d n o r m a l d h a p p y
 s t e n e A n o r m a l b o d y p r e p a r e i t o n i n t h e
 l e d y o f a d i a b e t i c n k e s i n b o d y n e p a l e o f t h e
 l t u n s i m b u t i n u l m s s i l l e d f r o m o u t l e
 t a c u t e d i s o r d e r c a l l e d d i a b e t e s f a i l t o a p p e a r Y o u
 y n o t s u s p e c t t a t y o u r f r i e n d h a s a d i a b e t i c h e r e d
 i t y i f h e c r e a t e s f o r l n c l l a n a t l e l e n r o n i n
 o n t a i n g i n s u l i n

Heredity Is Not Destiny

Some people speak and write al t l heredity as
 thot i t were so ne n f l e d e s t y t i l d e c s o
 s v l h c a n n o t b e l l e d s u l a t o f l e s a n t l t

of the fallen average I am in person in
the middle with I saw myself for
the first time the contrary to my performance
I have been the first to see the perfect
I feel the first in the development of the qu
I feel the first in the development of the qu

the result of the I am in person
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in which the I am in person
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Our intellect are I am in person
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I feel the first in the development of the qu
I feel the first in the development of the qu

As his first major work Gregor Mendel worked in the monastery of St. Thomas in Brno, where he spent his life in study and research. He began his experiments in 1858, and by 1865 he had published his results in the *Journal of the Royal Society of Brno*. His work was largely ignored until 1900, when it was rediscovered by three other scientists: Hugo de Vries, Carl Correns, and Erich von Tschermak. Mendel's experiments were conducted on pea plants, and he discovered that certain traits are inherited in a predictable manner. He formulated the laws of inheritance, which are now known as Mendel's Laws. His work laid the foundation for the science of genetics.

Experiment on heredity cannot be used as a method of study on human beings. Large domestic animals, cattle, horses, or sheep are also unfavorable because of low fertility, slow breeding, and great expense of raising large numbers. The need to obtain thousands of individuals of known percentage sometimes through dozens of generations has led students of heredity since Mendel's time to choose for experiments the rapidly breeding vinegar fly (*Drosophila*), Indian corn, mice, and rats, wheat, rapeseed, and so forth, tobacco plants, and more recently mold and other microorganisms. Enough has been learned of the heredity of particular traits that Mendel's principles apply to it.

Mendel's Law

The essence of Mendel's discovery lay in his identification of the unit of heredity. The essence, the gene, were the first living units to be discovered which are comparable to the atoms or molecules upon which our understanding of the non-living world has been based. The discovery of them has had a fructifying effect upon the whole of biology comparable to the effect of the atomic theory upon the physical sciences.

How can one apprehend such living units which cannot be seen? In particular, how can one prove the need to be discrete hereditary particles endowed with the kind of finality which is characteristic of genes? Mendel first recognized genes from the manner in which specific characters of plants such as for example pea flower color appeared in the offspring. His method was so simple that it can be repeated by anyone who can observe the results of controlled mating in any kind of animal or plant. When a plant of pure purple flowered variety was crossed with a white flowered plant, the effect produced was only purple flowered plant. When these purple flowered plants were allowed to produce their progeny, these produced to about 1/4 of a kind of plants which were pure to flower color about 3/4 of

to be in families in which both
 parents are affected by the disease and
 the children are also affected. The total
 number of children in the family is not
 important. The only thing that matters
 is the number of children who are affected.
 If the parents are both affected, the
 children will be affected in 1/4 of the
 cases. If one parent is affected, the
 children will be affected in 1/2 of the
 cases. If neither parent is affected, the
 children will not be affected.

Albinism

Albinism is a hereditary condition
 in which the person has no pigment
 in the skin, hair, or eyes. It is caused
 by a defect in the gene for the
 production of melanin. The defect
 is usually inherited from both
 parents. If only one parent has the
 defect, the children will be carriers
 but not affected. If both parents
 have the defect, the children will
 be affected in 1/4 of the cases.

to be only in families in which at least one

ordinary fingers and toes. The
 fingers and toes are short and
 the hands and feet are small. This
 is a hereditary condition. The
 defect is usually inherited from
 both parents. If only one parent
 has the defect, the children will
 be carriers but not affected. If
 both parents have the defect, the
 children will be affected in 1/4
 of the cases.

Characteristics of Cere

In the case of cere, the child
 will have a defect in the
 production of the enzyme
 that is needed for the
 breakdown of the
 sugar in the
 blood. This
 defect is usually
 inherited from
 both parents.
 If only one
 parent has the
 defect, the
 children will
 be carriers
 but not
 affected. If
 both parents
 have the
 defect, the
 children will
 be affected
 in 1/4 of
 the cases.

number of human character differences is much greater than three so the number of combinations must be very large

The following table shows the number of types which theoretically must appear among the hybrids when the parents differ in a certain number of dominant genes

Gene differences	Types in the progeny
1	2
	4
	6
1	16
5	32
10	1024
0	1018 76
0	107 118 1
11	

The number of distinct types (gene combinations) for 1000 thousands and for 100000 differ in the number of combinations to 1000 than 100000 with 20 and to more than a billion with 30 gene differences. With 31 gene difference it becomes about equal to the total number of human beings now living in the world which is estimated close to 100 millions. With still greater numbers of gene difference the numbers of possible gene combinations become enormous. The number of theoretically possible gene combinations is of the same order as that of the electron and protons in the universe as estimated by some physicists. Such calculations may seem meaningless because certain than that only an ex-

hybrid produces 1024 distinct types of sex cells and is capable of engendering that many different types of offspring. We see then that the chance of two brothers or sisters receiving the same hereditary endowment from their father or from their mother is small. The chance that they receive the same endowment from both parents is quite negligible unless of course the brothers are identical twins. As we now know identical twins arise from a single egg and have the same genes.

How many genes there are in man is unknown but it would seem reasonable to believe that man has at least as many as the earthy *Drosophila*. To be sure the number of genes is not precisely known even in that insect which has been studied more than any other animal but it is more than that a *Drosophila* has several thousand per pair many a ten thousand genes in each sex cell.

To illustrate the difficulty of counting the genes in any animal or plant one need only recall that about the same method through which we learn about the existence of the genes in the fruit fly *Drosophila* observed the segregation of different colored flower color in the offspring of a hybrid between the purple and white varieties and concluded that the pea plant must have a gene for flower color. Our knowledge of the genes for taste, PTC for eye color for albinism and for brachydactyly in man comes from observations on the distribution of characters and on the inheritance of the eyes, the color of the hair, the color of the skin, the color of the fingers in selected human families. But man knows that all the persons in the family know to be purple (or white) or that PTC is never been expressed or that the existence of the genes for the flower color in pea is for the PTC in man would not even be suspected if other works were found out about the existence of the genes for color only if the observation that the inheritance with respect to the trait and the color of the skin is such individual expression of the genes for color in the population is observed by the inheritance of all traits in

calculation of the number of genes in a hybrid of two pure bred lines of the same species. Now such a

[illegible]

genes which in a individual can be traced to a reason
the individual is not a white man but a Negro
Ily harbor the genes I tell of the Negro
whether or not I tell as a note Negro
Of the work both I tell of the
black kin can not carry the skin
(the albino) as the child can
not be born to Negro parent The occurrence of white
in Negro children in me from the in no way con
dicts this

Summary

have to let the reader look

on^b lent ty Her lty on t i f
 tes hch con in jach e just f cete nre l
 tor s or l ctes We e ve th n f o ur par
 n ar l p ste l or t o r Mc l l h o a l The x

I t l o t i u
l t e p o r t e e g e / t l t l o e x p l a i n
l l k c e l w e n i v l d C r l o f e s o n s l o o k
l k e b e a u c t h e y h a e o r e o f t h e i r s n n c o m m o n
C o s j w h c h l l k b u t i c l l y t e n t e d i f f e r i n s o m e
f t h n g e n e s M o s t g e n e s t u d f o r c e d j u s t i e s o f
h o l l y p e b d h e l l t g i n n l b u t s o m e
t l l l q d u e t l l e c
l l n e t y w h l s l c r i s t i c o f t h h u m a n
g r o l d i e t o g e n e t l a i d t o r e c o n f i r m a t i o n
d s e j r e e s h i e c r l l t l l s h t o y o f
l t c i d i t n l a s t l c o c c u r r i n t o d y t h e
t t o f u c h p r o c s e c i e d i n t h e n e x t
l l k r

I find that the existing inequalities place everybody
 in a biologically determined class and that the
 conservatives are sure that the abolition of social inequal-
 ities would result in a logical disaster and view with
 alarm the biologically determined trend toward
 a more progressive taxation free education social
 security and other "idiot" of the supposed carrier
 of the genes. Only few go to the south of the
 state to be benefited from the poor medical help
 from the officials of the industry here. But many
 use that the children are capable only of simple
 mented by measures which are a boon which would
 be the last of the jungle.

[illegible]

Will the F.U.?

[illegible]

So appreciable harm but may even be offset by turning some of the vitamins needed by the human body into animal and plant life become so common.

From its little between a
 a widespread in both small and great kingdoms that
 a perfect word synthesis has been
 could for the most part fully confirmed hypothesis

It is a plausible but not fully confirmed hypothesis that parasites which seriously incapacitate or kill their hosts are only ecologically (or an evolutionary time scale) near the end of their life span. Consider that parasites

with its
or re organism are
the lices of survi
Net r cl on ten
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of evol
ad j u
cooper t on at
part of n

Ily nte lict f n
Misk h th lo llec al part c f n tte
l m t lo r l elem tl l or ar l th
reor f soc lo d stio l of culr Hc
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l etto y k t n s vth ltt nape wll
t k th t t k n k l l

[illegible]

It is not only matched by the disregard of biology in the social sciences but also by the neglect of psychology and sociology in the biological sciences.

the human species has evolved an adaptive mechanism in its power and effectiveness has no precedent in the billion years of life on earth.

tant in all the billion years of living evolution. The
selection mechanism in man is not a blind, blind, blind

the highly structured functions. Many of the functions of the environment are closely related to the functions of the environment.

...ary of h environ ents cl tly throug' d c cry an
vention It is thanks to the actv ties of h br in an
t the pre erv ton nd h ng of the e ct v t ly

the preservation and living of the city by
they are grateful to the city for the
the importance that the city has for the

make wars due to conquest of the earth. As

... I see it in his mind to be a remarkable
... I see it in his mind to be a remarkable

When then we th

What then are the properties which make men so
nearly fit? The answer is clear in many of the
most living examples with the finest of the

ness of the machine. The machine is a very simple one, and the only thing that is required is a small amount of fuel. The machine is very easy to use, and the only thing that is required is a small amount of fuel. The machine is very easy to use, and the only thing that is required is a small amount of fuel.

... p l e t i s e t l q r v f e o i j ...

vill

[illegible]

ly p r s is superf

It is not a matter of the quality of the work, but of the quantity of the work. The quality of the work is not the issue. The quantity of the work is the issue. The quality of the work is not the issue. The quantity of the work is the issue.

I have not yet had time to read the book, but I have seen the title and the author's name. I am sure it will be a very interesting and useful book. I am sure it will be a very interesting and useful book.

1 f 8 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1041 1042 1043 10

use is however that there is no bias for such an assumption even for organisms below man in the evolutionary scale.

Ba 1 Genes

The jury ties which in turn I election f ors ar dis
cations aganst depend upon the en ronnment n
plant lives. Wl it is bad for the

individual in one place for example a tropical forest
may be good in another such as the Arctic

or a desert may be good in another such as the Arctic
set. The value for a man are in part of course
the moral quality which is a value in his

tations such as resistance to specific diseases will per

... m to survive in a variety of habitats. There are
... lter quite low ever which ... n ... she does n ...

ities and first and foremost among these are qualities

of brain and sense organs. A powerful brain and a great spirit may sometimes reside in a weak body and we all know some men who were invincible for much of their

know of great men who were invalid for much of their life. To say this is not to deny the importance of bodily strength and health. The difference is only a sound ra-

strengthened and built. The delicate and only consolation
 a sound body means a more complete and happy life.

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acted the [sent t e o l i n f y o f t h e]
[r t r o m t h e] [l i b e r t y o f f c s o f b a]
e v r a u n d n d j u t e n n o n v l c l a r e t h

1. *Regular gene* and *ad hoc* combination of gene with

one for 1 of be 1 d v l e iv 1 by a child

found does not belong to either infant with the

I t a d d l l d d e i t t t o l e a k u n e s
 a s p e c i e I i t i e r l r s n y o
 I e k l w o I l l e t y l e d f u n t

1 1 c k l w o 1 1 1 n e t 1 1 v e a t w o

is that no matter what may be the proportions of taste receptors in the population of a particular country, the proportions will persist indefinitely. Otherwise this is true not only for the genes *T* and *t* but also for the alleles for the ability or inability to taste *PTC*. But for any other genes as well, provided only that particular individuals do not carry these genes live all out of the population. The genes found commonly in a population today will remain just a common centuries later and rare genes will continue rare. Contrary to what the genes in a race seem to imply, the dominant is not crowded out the recessive or the recessive is crowded out the dominant. The frequency is high and it remains constant.

TI C C L L

[illegible]

A. However, the Applicant states easy to calculate the
 dependent of the number of the pool of a population of
 the total frequent of the population are 1 r
 the total of the population in the United States
 the total of the population (1) the total of the
 the total of the population (1) the total of the
 the total of the population (1) the total of the
 the total of the population (1) the total of the

of persons showing the effects of the gene. Since non
tuning is recessive to tuning, the proportion of the gene
for non-tuning in the gene pool is the square root of the
percent or about 1 percent ($\sqrt{.01} = .01$) of all
the genes of the population. It is easy to find the
proportion of persons in a population who will show
the effects of a gene if we know the frequency of that
gene in the gene pool. The frequency of persons showing
the effects of a recessive gene is the square of the
frequency of the gene in the population. If a recessive gene
has a frequency of 1 percent ($.01$) in the population, the
frequency of persons showing the effects of the gene is
1 percent ($.01^2 = .0001$) of the population. This is
low its effects.

We can't predict with confidence that the present proportions of the eyed and the eyed persons in New York City will be found in New York some centuries hence unless one or more of the following things

(1) Rel u cly no e blee eyd (on brow n eye l) pen
t le co e to New Y rk or le ve N w Yo k to live i
d er places

() Blue eye (or brown eye) 1er o1 eq re o1e
1st 1e over the oth r type 1r 1ealth o 1nlt of
1fe or frtly or o1e 1ter eq 1ty 1ch re 1t in
1ll 1thut 1ther

CL 101 1

New Geology Month

We have now to sketch the root of the problem of the necessity of being which it is not difficult to show eyes and the other lookers at the world are the other

... for amaurotic idiocy) is recessive to the condition and that all the defectives die before they can have children. The genes present in the defectives are being lost and their number in the population would decrease.

Unfortunately there is no reason to believe that hereditary diseases are in process of disappearance. In fact some figures make it look as though such diseases are becoming more frequent but this is probably a false impression due to improved statistics and not to increase.

In Denmark the few defective children are mostly for a certain type of like reliable statistics are available. It is a hereditary disease has probably remained in the population even though if so no defective genes are lost in every generation. The explanation is that some genes change from normal to defective by a mutation.

Mutations have been observed and studied chiefly in plants but in some millions of these have been observed in other experimental control that mutations occur in rare thousands of them have been observed at first but in time they are less easy to detect because to lose a mutation in all the children carry it.

A mutation may be detected more easily than the recessive ones. This is because dominant traits are expressed in the parents of the children but the recessive traits are only expressed in the children if both parents carry the recessive gene. The mutation may be detected in the children if one parent is affected and the other is not.

Mutations to dominant traits are detected more easily than those to recessive ones. This is because dominant traits are expressed in the parents of the children but the recessive traits are only expressed in the children if both parents carry the recessive gene. The mutation may be detected in the children if one parent is affected and the other is not.

From a normal colored parent proved to be piebald that is her skin was irregularly spotted with white. She had fifteen children by a normal colored man eight of which were piebalds. At least five of these are known to have had in turn some piebald progeny while no piebalds were born to their non-piebald brothers and sisters. It is fairly sure that the piebalds are from a sex cell which contained a gene of her offspring.

Several instances of piebaldism appeared suddenly in a single child born of normal parents are recorded in the medical literature. It is certain that at least some of these instances represent authentic mutations.

I scarcely why mutations occur in man or in other organisms we do not know as yet. Mutations appear more frequently in the offspring of individuals treated with X-rays, high temperatures and some chemicals. But mutations also occur without any treatment. For all we know they just happen to us for example every 100,000 human sex cells.

It is also from such a mutation through her daughter transmitted the gene for the Pinaud family. The royal family of the Netherlands is said to have been a carrier of a mutation gene in the past. It is said that the gene was eventually detected by the family.

When all or a part of the victims of a hereditary disease regularly die without leaving progeny and nevertheless the disease does not become less frequent with time because the supply of diseased genes is maintained.

Through death of the carriers arising by mutation to the number of these genes is maintained. The disease becomes more frequent because the supply of diseased genes is maintained.

[illegible]

When you are in a new place, you
 will find that the people are
 very different from the people
 in your own country. You will
 find that the people are very
 different from the people in your
 own country. You will find that
 the people are very different from
 the people in your own country.

It is clearly that if a gene for a recessive disease or abnormality is rarely all of the genes will be found in *Aa* people who are themselves perfectly normal although of course they transmit the disease to their offspring. In England for example about one in every 1000 people is albino. This means that in the gene pool a little more than ninety nine per cent of the genes are *A* (the one for normal pigmentation). The *a* is one per cent *a* (the gene for albinism) of the gene pool and a half per cent of people are *Aa* (i.e. mildly sick or carriers of albinism). The *a* gene is found in 8% of the population.

Now suppose that we select a list of letters to have a race for of which all are in the LTC. This would mean that LTC is to be regarded as harmful if it is selected for to be purged from the race for good. Really does the race to LTC are of course neither the error nor inferior to the other (cannot). Therefore the letter should state that others are present the state blind people from having children because the belief in heredity as a race trait. All the selected persons are in the aa category. This we can stop all of the genes in the aa people from being in the next generation. But the gene for taste blindness is found in people who are tall and tall people happen to be short and tall as much as are the people. This even if all the state blind people are tall the gene for tallness will be perpetuated in the tall ones. So the taste blind will win in the next generation.

The first of the two bills will be introduced in the House of Representatives by Rep. John Dingell (D-Mich.) on Monday. The second bill, which would require the Justice Department to file a report on the progress of the investigation, is expected to be introduced in the House by Rep. Henry Hyde (R-Ill.) on Tuesday.

[illegible]

I have been thinking of you a great deal lately and
 wondering how you are getting on. I hope you are
 well and happy. I have been very busy lately
 but I will try to write to you more often.
 I am sure you will understand me.
 I love you very much and I hope you love me too.
 I am your affectionate friend,
 John Doe

to the 1st

[illegible]

of the expense and delays involved still further. Nevertheless, where the defective genes are involved, elimination of their carriers from parent stock would unquestionably benefit the coming generations.

When defects due to recessive genes are concerned the efficiency of sterilization is in general low. Only if a recessive defect is very common in the population can individuals of the kind produce a sufficient number of their kind in the next generation. For defects which are rare or caused by recessive genes which for only a certain environment or specific toxic or disease genes present in the same individual are sterile, sterilization is accomplished by sterility even if the defect is in the first generation. To be sure if sterility is continued for many generations the defect will become eventually less common in the population. The process may however be slow.

O t o l d w o r t h y h i s s o f s u h
 I t h f j l l o s h e a r t h i s t h e c o r
 f e l e f e d t h e h o s e t
 e r e f e l t t o s e l l h t o
 s h p e y t t l l e t t o t r i c k l n s o n
 p r o l n t e l q t t m y l v b e t t e r u l t
 d n s t w t f l i c o v e r y o f s u c h n
 e y f y f f l l i t y w i t h r e c e t e
 t h t e f f f f n e d h n e d t o t
 f t h t f f t t t t t t t t t t t t t t
 f l h t t t t t t t t t t t t t t t t t t
 f l e t f t t t e e o f a g e n e l u h h o o
 h o u t e e b l o f t c a s e (C o o l e y s e m)
 t h e t t t t t t t t t t t t t t t t t t
 u h c h d f t d o n l y o n t p r o g r e s o f r e a r c h i n
 h e t t f t t t t t t t t t t t t t t t t
 t e s t o t e r k t f y l l t t t t t t t t t t
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 e f f e t t t t t t t t t t t t t t t t t
 l l e f f e t t t t t t t t t t t t t t t t
 y t

It is the duty of every citizen to save it from the trial should it be necessary to the public interest for the new

D r u g s

At present the supply of drugs in the United States is not sufficient to meet the demand. The Government has taken steps to increase the supply by allowing the importation of drugs from foreign countries. This will result in a lower price for the consumer and a higher profit for the importer. The Government has also taken steps to regulate the drug industry to ensure the quality and safety of the products. This will result in a higher price for the consumer and a higher profit for the manufacturer. The Government has also taken steps to subsidize the production of certain drugs to ensure their availability. This will result in a lower price for the consumer and a higher profit for the manufacturer.

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Citizenship	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	290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an h c ts h l c r d e l l s s c o s o m e f n e i s u l
 t h o n l i o n e n t i n T o b e f a i r t o M c h u r n
 t h i s y t h f n c e s a r e n o t o m u c h o u t f
 t i m e t h i s s u s t a i n s t h a t y u p e r c a s s T l y
 l l h e t o n a l e l i e f u t a l t r i e f a c i r l
 l u t t e r l l s l e l l l a l i n s e l l e g e t e c
 f r i s t i o n I n m a y p l a n t s t h i s i s t o b l e t o p r f t
 l a l o r t i s s o f o n e v a r i e t y o f n e e i n t o n o t h e r v a r i e t y
 t i n f r e q u e n t l y t h e l a v e s m i f r u i t c a l c u l a t i o n f r o m
 t e s e v a r i o u s i n f l u e n c e s f t h e f o r e s t o c k o r v i c e r
 M c h u n l e l v e d t h a t t h i s i s t h e n e p e r s t
 l o i n t h e e s s a y o f o r m i d f r o m t h e r a s t e d t r e e I f e
 l o l l e v e l t h a t t h e h e r e b y f a y u n c s o r a r e c e n t l y
 t r a n s f e r r e d t r e e i n s o m e w u n s t r a e l u t t h i t u
 o d i s s a f t e r a r t i s L y s e n k o f e l l o s c l a i m m a y
 o n d e r f u l t r a n s f o r m a t i o n f h e r e d i s T h e m o s t e x
 t r a n t o f t h e c l a i m s i s t h a t b y p l a n t i n g c o m m o n
 w h e a t u n d e r u n f a v o r a b l e c o n d i t i o n s o n e c a n t r a n s f o r
 i t n o t o n l y i n t o a w h e a t o f a d i f f e r e n t s p e c i e s b u t e v e n
 i n t o r y e T h i s i s l i k e o b t a i n i n g f r o m y o u j u s s y c a t a l a n c
 e b o r e v e n a l e a r c h

All the time we say about these claims is that every
 type of experiment in Lysenko's arsenal was performed
 by his students before him with results that failed to support
 him. And wherever his work is repeated by his students
 and planted seedlings outside the Soviet Union the results
 contradict Lysenko's assertions. These are the facts of the
 Lysenko story, however it is the theories have been
 raised by the rulers of the Soviet Union and that
 is what is to them is no longer to err and in that case
 try. Disillusioned and worthless views are often used in
 science even when they are wrong because they may
 mutilate more carefully than and research. But the
 can be no scientific whatever for the use of human
 improvement and exile test with the end
 of the crime. The
 in the end is the same
 to destroy the Soviet Union and its people.

Can Genes Be Changed by the Environment?

Bodily or mental traits acquired during an individual's life are not transmitted to his offspring. The reluctance of the various inherited characters are inherited how ever it is widely understood since it is that the hereditary genes are unchangeable or some from the environment it must be added.

to Lysenko the pretext to deal with the mystical and even pseudo-scientific

That genes can be changed by the environment is indeed self-evident. Although the exact chemical make up of the genes is not known they consist of a kind of chemical substance (nucleo-protein) which is extremely complex and can undergo changes in many ways. To give a crude example when you boil eggs for your breakfast you surely change the genes contained in these eggs by heat. Or you can kill the sex cells of any organism by any one of a great variety of poisons and this will also change the genes carried in these cells. The important problem is evidently not whether genes can be changed for they clearly can be but what are the consequences of the change. And here it appears that the most serious threat to the

such it is not likely to be spoiled by any other expects to improve himself by poking a stick into it. The change in the gene which are inherited to us is really peculiar kind. They must be retained whether the gene reproduces itself by nuclear division from outside materials from food. Such change

called mutation (see Chapter 4) and they occur relatively rarely. The statement that the hereditary of an organism cannot be changed easily means that only that it does not yet know how to make the genes of a certain kind to be to a relatively stable state.

But the likelihood of a mutation over the mutation process

not in that the heredity can not be changed by
 environment or by human effort. The hereditary
 element is an out-
 come of a controlled by
 natural selection
 of the environment which changes
 it by a subtle but very effective
 method by which the well adapted forms survive
 and by which the unfit are eliminated the genetic
 elements which are in tune with their environ-
 ment survive and those which are out of tune are
 eliminated. The heredity of his day
 is a result of the selection to serve his need.
 And the mistake in the view of the application
 of heredity to the evolution of man is
 a completely scientific fallacy.

6 Race

It is an old human habit to believe that one's own
 family or race is better than the neighbors but it is a
 relatively new idea to ascribe this superiority to inher-
 ited biological qualities. The Greeks of more than 2000
 years ago felt that they were better than a barbarian
 because they were more civilized and less inferior. The
 Greeks felt that the barbarians were inferior not
 because they were inferior in body but
 because their manners and customs were so bad. The
 Greeks could not detect the same superior attitude in
 other people of antiquity. As far back as the 5th
 century B.C. Herodotus the great historian wrote with
 subtle irony that Persians look upon themselves as very
 greatly superior in all respects to the rest of mankind
 regarding others as approaching to excellence in pro-
 portion as they draw nearer to them. At once it comes to
 us that this is the most

led so much

Motivation is the often forgotten
 factor in the race yet it is the basis of all
 human progress. The Jews embraced their religion
 in the early Christian era and adopted the same atti-
 tude toward the rest of the world as the Jews
 toward the rest of the world as fundamental those differ-
 ences are the result of fundamental differences

cation

peas in a

ors And so anxious have some w
1 h-rden upon themselves that they used their

outer inter of 1

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com

to assign all men to the species *Homo sapiens* (for *man sapiens* for wise an opinion which we should ly only dare express in Latin!) Linnæus placed aies at the pinnacle of the animal kingdom aeus knew of course that the men who inhabit of the world are not all alike and so species into four varieties as

ican Indian)—Tenacious con
tentieu d by custom
europæus—Light lively n enti e ruled by rites
asiaticus—Stern haughty st nøy ruled by opinion
âfer (African)—Cunning slow negligent ruled by
caprice

The first classification was as we see based on char
acters of the mind and not of the body The fault of
was that it didn't classify contented
ent people can be found everywhere
(1775) the German scholar Blumen
f anthropology the scientific study of
o divide men according to skin color
es and to each of these varieties was
race a term which had been em
ployed earlier by the French scientist Buffon The five
races of Blumenbach were

incident if the person whose race we wish to determine
belongs to a particular race we can decide easily with the
case for any other race. If we know any one sure
feature is characteristic for all of the two myself
the in the predicament that no actually exist
or on an of any race myself here is shown to th
itself. Since every individual differ from any other
it is that everyone belongs to his own special race
but to yourself that makes the race concept absurd.

Not only individuals but also whole groups of people
are frequently difficult to place in any one race. Our
outlook does not come from our acquaintance with
various races and societies and our ideas about the Al
from observation is on southern Europeans. No
subjects of northern and central Germany are on
the same level as the between white and Al
among the white and the yellow who are
typical Nordic and the Alpine as can
be seen here. What race these people belong
We may try to escape the difficulty by saying that
the Nordic Alpine and the yellow in their es
sentially that of the racial mixture (hybrid) is
a new racial creation. If however it has less mo
and is difficult no less serious than the first.

Are Races?

If you say that something is a mixture you imply
the red elements which have been mixed together
for even some her or have existed in the past. But
here we find the Nordic and the Alpine pure Mediter
anean? What if you go to the United States
or to the United States of America and find only
the notion of racial purity and no unity
or unity you will meet a lot of mixed blood
and the person in the city of New York is just a
one there is no any individual of brown eyes
or red. There is not to be said that
one of the Nordic and the Alpine and
the city than are the black and white bloods.

Only blue-eyed blonds are met with occasionally among
hybrids and the blonds are the first.

As a last resort one may suppose that although no
countries inhabited by pure Nordics and pure
Alpines (or by any other pure race for that matter)
exist at present such countries did exist in the past.
This is supposed to be actually implied in most popular
discussions of the race problem. Back in some distant
Golden Age people religiously kept their race pure
and thus made them strong and wise. Recently they ad
loved themselves to become mixed or mongrelized
and the tide of humanity is about to swallow us as
a consequence. Such notions are however definitely
refuted by scientific data. Prehistory has been going
on during the whole of recorded history. Incontrover
sible evidence from statistics on fossil human remains
shows that even in prehistory at the very dawn of
humanity mixtures of different stocks (at least occasio
nally) took place. Mixture has always been and still is
a normal fact.

To be sure the growth of the world's population in
the last two centuries coincides with the leveling
out of the means of the individual civilization. It is
enormously quickened up the process of mixing of the
human races. Mixing of at least closely related races
(such as those found in different European countries)
appears however to be biologically desirable rather
than the reverse. A gradual increase of the average stat
ure has been going on in civilized countries of
the world during the last hundred years. This
becomes especially due in part to immigration of the
young and the healthy and to better nutrition but in part
also to the lifting of the barriers which in the past sepa
rated different peoples so that tall genes could spread
more widely. However it may be nothing can be
more certain than that pure races in nature never existed
and can never exist.

It is impossible to find the population of a country a type
or an ideal or a standard from which to start for the
outbreeding allowed to breed for a few generations.

of this some of us have blue and others brown eyes some have prominent and others flat noses some are tall and others short Such differences are a course common among people of the same country state town members of a family and even brothers and sisters We do not suppose that every person with blue eyes belongs to a different race from everybody with brown eyes It would be absurd to do so because blue and brown eyed children are frequently born to the same parents It happens however that certain genes are more frequent among the inhabitants of some countries than of others Thus blue eyes are very common in most parts of the United States but rather rare in most parts of Mexico It is this and similar differences which make it possible to say that the inhabitants of the United States are in general racially distinct from the inhabitants of Mexico Race can be defined as populations which differ in the frequencies of some gene or genes

Model Cross

Now let us try to understand the racial subdivision of mankind in the light of this definition One of the most interesting human genes is that which determines the blood group to which each person belongs It was of theoretical importance to work out the inheritance of this gene because of its relation to blood transfusion The crossing of blood is one person to another so that the distribution of the various types of this gene amongst the individual members of the world is not pretty well known One interest of this whole subject is that it is a simple matter to find out the blood group of a person by a simple test which can be done in a few minutes and the clumping is seen with the naked eye

Blood. The groups are known as O A B and AB Blood from people of group O can safely be given to persons of any group hence group O people are called universal donors Persons of group AB are universal recipients since they can safely receive from any other person But A blood can not be safely given to O or B persons B blood should not be given to O or A persons while AB blood causes trouble transfused into O A or B persons To which group blood can be found out by drawing a drop of blood and mixing it with some drops of blood (the fluid part of the blood from which the corpuscles have been removed) of persons known to be of A and group B If your blood corpuscles clump together or agglutinate in B serum you belong to group A If they clump in A serum you belong to group B If they clump in both A and B you belong to group AB while if no clumping takes place in serum you belong to group O The whole examination takes only a few minutes and the clumping is perfectly clear under a microscope or with practice it is seen with the naked eye

Genes and Geography

Within the last twenty to thirty years the groups of people in all parts of the world have been studied The increasing result of these studies has been that with few exceptions nearly every group everywhere has been found to consist of a mixture of the four blood groups in various proportions the relative mixture of persons with the various types of the four groups varies a great deal from one race to another and also from one locality to another The table below shows the frequency of the blood groups in different parts of the world

PERCENTAGES (IN PER CENT) OF INDIVIDUALS OF THE FOUR BLOOD GROUPS AMONG THE INHABITANTS OF DIFFERENT COUNTRIES

Country	O	A	B	AB	People	O	A	B	AB
China	49	4	8	1	Chinese	31	3	28	7
India	4	47	9		British	32	39		8
Japan	1	1	2	1	Japanese	3	38		1
France	1	19	6		French	37	8	35	
Germany	2	34	2	9		3	37		8
Italy	19	41	1	6	(Bengal)	33	39		8
Spain	31	42	7						
Portugal	1	1	1	6	Albanians	48	5		
Greece	4	4	4	4					
Sweden					Egyptians	7	39		9
Switzerland	1	1			British	19	7	5	5
Netherlands	1	1			Algerians	4	8		4
Belgium	17	3	0	0	Indians	3	3	9	
Norway	1	1			Norwegians	43	3	9	

If we be in a trip around the world on the Atlantic coast of Europe we find among the English Portuguese and Spanish populations about 90 to 95 per cent of persons of group O about the same proportion of group A and about 10 per cent of group B and 5 per cent of group AB.

Among the Persians about 3 per cent of the population are B and A. Crossing into Asia we find that the proportion of B and A is very high in blood of the Chinese about 30 per cent of the population are B and A. In the Japanese about 30 per cent of the population are B and A. In the Chinese about 30 per cent of the population are B and A. In the Chinese about 30 per cent of the population are B and A.

The most important conclusion from the above is that the blood type of a person is determined by his parents. If one parent is of type A and the other is of type B, the child will be of type AB. If one parent is of type A and the other is of type A, the child will be of type A. If one parent is of type B and the other is of type B, the child will be of type B. If one parent is of type O and the other is of type O, the child will be of type O.

to donate the blood whom should you choose as a blood donor? The old and obsolete theory of heredity and the ideas about race based upon it, would counsel you that a blood most similar to yours would be found in a person of the same race and particularly in your close relatives, brothers or sisters. You may also hear that you should choose as blood donor a person of upright character and good disposition otherwise you may be contaminated by bad blood.

But you had better disregard such advice. If your brother has A or B blood the transfusion would probably be fatal to you because his corpuscles would clump in your blood and clog the small blood vessels. On the other hand a native of any land who possesses blood of group O will be a better donor regardless of his race or moral qualities. It is wiser to choose your donor according to his blood type which is determined by his individual heredity than according to the race from which he springs. It is this property of his blood that matters not his skin color intelligence or moral. By analogy if you wish to hear good music it is wiser to choose an artist who is a good musician his blood group does not matter nor is his skin color relevant. When you vote in a political election the intelligence and honesty of the candidate not his blood group or musical abilities are relevant.

The Relativity of Race

The above conclusion is so neat pretty sweeping. Is it possible that they don't apply to children?

Yes, since genes responsible for other traits how they are kind of distribution over the face of the earth. Take the first human gene difference mentioned in the book the one which determines whether you can taste phenylthio-carbamide or not. This "taste" has been found in every human population which has been tested so far as known.

It turns belong to the same race Races merge into each other geographically If we travel from Norway southwards through Germany Switzerland and Italy we find that the blue eyed individuals become gradually less frequent and the eye color more frequent But no where is there a break or a definite line on the two sides of which people are really so different that we can say that here the northern race ends and the southern one begins If we take into account but three races a northern a central and a southern the difficulty becomes even greater and instead of one indefinite boundary we have a very boundary rises to contend with

Only rarely is a more or less definite and not quite arbitrary line drawn between the territories occupied by different races This happens when their territories are separated from each other by some natural obstacle which is a desert or a mountain range which impedes the movement of people from one territory to the other Suppose that we continue our voyage southward from Norway beyond Italy As we cross the Mediterranean Sea the limit of North Africa proves to be rather different from that of the Italians who still belong to the Mediterranean branch of the white race Further south and less the desert of Sahara the crossing of the Sahara is used to be a difficult undertaking a matter of fact it still is difficult except with the aid of an airplane Now as soon as the Sahara is crossed we find that the white colors are strikingly darker than those of the white race north of the desert We have left the territory of the white race and we are in the land of the black race

It is difficult for the white race and the black race to cross the great racial divide The human races are naturally separated by natural barriers such as the Sahara desert Whenever the territory of one or more races comes into direct contact the population is that we find a mixture of the two races the traits of the race in contact are found and the finger such contrasts as the more or less yellow skin the red hair the population of the more blighted become racial divisions

Eventually a situation is reached when as in Europe one can recognize anything from a single race to a mixture of races

One might not conclude however that because the individuals between races are frequently arbitrary mixtures of the various races By looking at a suburban landscape one can not always be sure where the city begins and the country ends but it does not follow from this that the city exists only in a linguistic sense Races exist regardless of whether we can easily define them or not It is plain that the most Norwegians can be told apart from a northerner by their appearance and this is true regardless of whether or not you decide to call them different races Whatever your decision on this score remember that differences between races are compounded from the kind of differences that are found between individuals of the same race A Norwegian may carry some genes and show some physical traits which are typically Italian in the sense that they are more common only in Italy than in Norway in populations A child born of parents of a given race does not necessarily possess all the traits which are usually met with in the representatives of that race The quality of an individual is far more important than the race from which he came

Let us now very briefly summarize what we understand clearly why the human races are still separated by an obstacle to travel between the lands of different races and why it is so difficult to restore contact with people who live in different homes and countries they learn to know their own territory and it is difficult to like each other One of the chief causes of the inter-racial mixture is the difficulty of the inter-racial marriage is though it is to a large extent of the blood of the races and appearance of intermediate or mixed races is a gradual process and the blood theory of heredity is not the view with the inter-racial marriage between races leads to the eventual fusion into a single variable group and corrects those traits of the race which go per cent of individuals that are not so percent with brown eyes

Although putting the different beliefs on human populations in a arbitrary procedure it is a fact that the human races are not homogeneous but consist of subdivisions. The orders of classification differ from each other in the commonness of many features. Biologically the different human races are quite different to the race or varieties of animals or plants in nature and to the breeds or varieties of domesticated animals and cultivated plants. All of these arise in the course of evolution through the occurrence of mutations, gene recombination and natural or artificial selection of those collections of genes which are suited to certain environments. And yet races of man have characteristics which are different from races of other animals. Men are affected not only by local conditions but also by social forces. These two kinds of influences are in continual interaction with each other.

While races of wild animals and plants are kept apart by geographical separation alone, human races may be separated by cultural factors as well as by primitive natural factors. In the choice of mate and the frequency of interbreeding in human populations, the social and economic factors are of great importance. The various different racial groups coexist side by side at least for a time in the same country.

In the same territory human racial groups may remain relatively distinct whereas in wild animals and plants which reproduce exclusively usually no more than a single race of a species is found in one locality. The case of wild animals is not a good example. The members of a race are exposed to a different selection pressure than those of some of the other races. The different races of man are affected by different selection pressures. The different races of man are affected by different selection pressures. The different races of man are affected by different selection pressures.

regarded as propounded by partisans of this in the United States is a plan to prevent the flow of genes between these races by social means—custom and legislation—instead of by geographical separation. Milder forms of social barriers against intermarriage of groups of people such as religious economic educational and language divisions may also slow down the gene exchange between populations and postpone for a time the obliteration of the races. But the long time trend is clearly toward race fusion.

Contrary to the opinion vociferously expressed by some sincere but misguided people such a trend is no biologically dangerous. Mixing of closely related may even lead to increased vigor. As for the most tautly partitioned races there is no basis in fact to think that either local stimulation or deterioration follows crossing. The widespread belief that human hybrids are inferior to both of their parents and somehow constitutionally unbalanced must be couched among the superstitions.

Do Human Races Differ in Mental Capacity?

Breeds of dogs differ markedly in temperament responsiveness to particular kinds of training and hence in the use to which they may best be put by man. Although almost any dog can be trained when young to be of some use one would not for choice try to train a dachshund to be a sheep herder or a shepherd to hunt rabbits. Similarly the differences in temperament between polo ponies and draft horses which are certainly conditioned in part by their heredity fit for different functions. These breed differences have been accentuated by selective breeding by men which is the chief factor in this connection. It is often being argued that differences in biological heredity are at the bottom of intellectual emotional and temperamental differences between races and between cultures.

Another point concerns as follows. Races arise as

man and for all climates. Therein lies the most important biological feature of the evolutionary pattern of mankind. The likes of us or of horses have been called to perform the same services by making use of the same genes. It is certainly capable of pursuing a great variety of ways of life. But he is enabled to do so by different training and education, not by requiring different genes. This does not mean that the genetic differences among men do not affect their mental life. But from the vantage point of evolutionary biology we can see that such differences are not fundamental. Far more important is the fact that human capacities are developed by training from childhood on. In thousands of cases aside human personality is shaped mainly by the patterns of interpersonal relations which prevail in a given culture, and by the individual experiences of each member of a community. This genetic flexibility in its educationality has guaranteed the success of mankind as a biological species, and in this process it has progressively more advanced itself.

Cultural Ropes

Although uniformity of men appears to some people there is no reason why monotonous sameness should be our goal. On the contrary such a prospect appears bleak in the extreme. Psychological and cultural differences among individuals and groups furnish the leverage of creative effort which carries mankind toward ever greater achievements. The quest on which whether or not human races differ in hereditary psychologies, cultural traits for the time being, must be regarded as a waste of time. We know that a variety of different civilizations have existed and exist in the world. The differences between them are not to be counted for by the fact that they are all part of the group of mankind. It is not the fact that they are all part of the same group that makes them different. It is the fact that they are all part of the same group that makes them different. It is the fact that they are all part of the same group that makes them different.

There is to an extent assuredly greater than the differences between individuals are certain differences between the average differences between races.

We have seen that the psychic trait which is most favored in human evolution is the ability to profit from experience. The educational ability does not make all men alike. The opposite is true. The survival advantage of to learn and to be trained consists precisely in the development of a person can be turned in many possible directions as necessity may demand. It permits then a vastly greater diversity of human personalities than could possibly arise if they were genetically fixed as it is in the inhabitants of the anthill. Far from mental uniformity human evolution has been diverging.

Regarding the problem of the intellect, biological heredity is limited and cultural heredity is essentially boundless. A variety of human cultures will be produced rather than a curse if we learn to understand and to admire them. In the real world there is enough room to accommodate the contrasts not only of different individuals but of different nations and races. It is a waste of time to wish particular civilizations are superior or inferior. There is no common measure for the works of a poet, an artist, a philosopher, and the simple kindness of heart of a human being. They all need them all.

Appendix

Why Do the Positions of Dominant and Recessive Genes in a Population Remain Constant from Generation to Generation?

Section that a previous by uninhabited island or other
 unoccupied and that it is not situated by
 any of the islands in the group there are many
 individuals who are those who can taste the
 I C that the ability to taste ITC is as we
 know it is a hereditary trait (homo-
 logous) for the ITC (T) gene T for taste
 sensitive and t for non-taste and the non-
 taste are a recessive trait (tt) When propor-
 tions of tasters and non-tasters will be found in the
 population of island in the next and all follow-
 ing sections it will be seen that it does not matter for people
 whether or not they can or cannot taste ITC and
 fact very few people know to which of these it is
 that they belong because it is a recessive trait
 that can only be detected in those who are homo-
 zygous for the recessive trait (tt) therefore the
 proportion of the tasters and non-tasters will be deter-
 mined by the proportion of the tasters and
 non-tasters in the population. If so the married
 population of the island will be about as follows

$$\begin{array}{ccccccc} & & \text{MAR} & & & & \\ M & & A & & W & & I \\ III(&) & III(&) &) & & \\ III &) & & III(&) & & \\ & & & u & (& & t \end{array}$$

Of the men who are tasters about half will
 1 1 3 and half n n tasters of the men who are n
 t t t t out half all marry tasters and half non taster
 This means that of all marriages about 1/4 n
 both tasters about 1/2 are mixed marriages and
 about 1/4 both partners are non tasters If tasters
 non tasters live about equally long and have about
 the same number of children the first generation of c
 dren will consist of 1/4 pure tasters TT 1/2
 tasters Tt and 1/4 pure non tasters tt or in other
 words 75 per cent tasters and 25 per cent non

Now we want to know what kind of children children will have if marriages amongst them take place in random with respect to the ability to fly. In this case there will be three kinds of flies. The first and the second and the third kind of flies will be in the proportions $\frac{1}{4}$, $\frac{1}{2}$, $\frac{1}{4}$. The possible combinations of these flies and what the children are expected to be in the first four children are born from a pair will be as follows:

[illegible]

The children will again appear in the picture, still as they have been, and in the next picture non-tasters. They will be there as they were among the people. The same conclusion can be reached in a different way. Instead of considering the ratio in mating, the members of the population we can think

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 L a n d t e l e K l 8
 L a g J l a s 3
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 l p d 9
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Soviet U l l g y
 S p e x H b e t 64
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 t l l l 16 85
 t o c k p t t l o
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 i a l f l l f i e t b j
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 t t b l d l l 73 89
 h l l f 17
 l l l l 51
 l l y l l e d t y
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 V C l a t d t
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THE WORLD OF COPERNICUS

(S S d Th S M)
A p r A m g T f i t
I x m t t f t l w l
It (A G)

JEFFERSON (1793-1826)

I K P l O f t l
I t l g t l l f t l k t
I m f k l l J f
I f o l g R t l w
I d f t l t y
I l t l l f l l k
f d y t l

(M70)

CONSTRUCTION IN PHILOSOPHY

J l D y A m l
I k l y g d l t l k
I l l w l J l l h y
w l t l y l l (M3)

THE NEXT DEVELOPMENT IN MAN

I J l J P l y l e (P
I d l y t l t l 29 n)
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I t g t l l l
I l r y w y f t l k g
t w l l k l l n w l w
t l t y m A l t l
g g k i t l y t
g l k (M0)

THE UNIVERSE AND DR. EINSTEIN

I l B t r w t l f
I d b y A l b t t f
I d p l t f t m
I c t n l t d l
I t t l f t m w h l
t p l t l t t l p b
t p l p l y d m d m
(M72)

I AM IN THE MODERN WORLD

I l H l y l z t l t g
I t l l
I l l f m l M
I l l O l
R l t (M31)

GREEK HISTORICAL THOUGHT

I l l b A l l l l l
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I t l p l f f
I l t l g f l l l
— l t k d f
w (M7)

SEX AND TEMPERAMENT IN THREE PRIMITIVE SOCIETIES

I l f t l l l l
I y d l l l w
I w l l d t l l
I w l l l
I k l n l l
g q t (M6)

THE DEMOCRATIC WAY OF LIFE

I l S l l l l l C
I l l (A w d)
I l l y l l d l
I l l g r l k w l l
I l l f t l t
I l w t w k l t
I l p l (M1)

